SYSTEMS AND METHODS FOR ADVERTISING
TRAFFIC CONTROL AND BILLING

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CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority of U.S. Application No. 60/108,960 filed November 18, 1998, the disclosure of which is incorporated fully herein.

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BACKGROUND OF THE INVENTION

Providers of Electronic Program Guides ("EPG"), such as Gemstar Development Corporation, also provide opportunities for advertisers to reach television viewers through the EPG. While
15 the viewers use the EPG to make program selections and to perform other EPG functions, the EPG will display advertisements. Advertisements to be displayed on a viewer's EPG will be comprised of, among other things, advertising text, graphic objects, and other advertising elements, often referred to in the
20 Advertising Industry as "Ad Creatives." Ad Creatives can be created and displayed by the host EPG display system in various locations on the EPG. At any one time when the viewer displays the EPG, multiple Ad Creatives may be simultaneously displayed on the EPG display on the viewer's television monitor, or other
25 display device.

International Application No. PCT/US95/11173 (International Publication No. WO 96/07270), the disclosure of which is incorporated by reference herein for all purposes, illustrates an EPG that provides viewer-to-EPG interaction and provides
30 Picture-In-Guide ("PIG") display of the television program simultaneous with the display of the EPG.

U.S. Application No. 09/120,488, the disclosure of which is incorporated by reference herein for all purposes, illustrates further improvements to an EPG.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the screen of an Interactive Electronic Program Guide; and

FIG. 2 is a flow chart of a method according to an embodiment of the invention.

DETAILED DESCRIPTION

10   The present invention controls the traffic of advertisements to be displayed on the viewer's display device and determines an appropriate amount of money for which each advertiser should be billed for the display of that advertiser's Ad Creative.

Each advertiser will pay the EPG provider to display the Ad
15 Creative(s) provided by that advertiser. Multiple advertisers will want the EPG provider to display the Ad Creative(s) provided by that advertiser according to agreed upon display terms. Display terms will include one or more of a number of elements, including but not limited to:

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1.) Type of Advertisement;
2.) Placement/Location on the Display Device;
3.) Proportional "Size" of the Advertisement;
4.) Time Duration for Each Display of a Particular
25   Advertisement;
5.) Expansion Specifications;
6.) Access Relationship Advertising Target Specifications;
7.) Display Relationship to Viewer Profile
30   Information and Characteristics;
8.) Scheduling Specifications;
9.) Ad Creative Elements;
10.) Ad Interactivity

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In one embodiment of the present invention, the traffic and billing control terms are defined for administration at the EPG
5   distribution head-end only (a "Head-End Traffic and Billing Control System," also referred to as a "Head-End Embodiment"). Attached hereto as Appendix A, and incorporated in full here by reference as if fully stated here, are the specifications for one Head-End Embodiment of the present invention.

10   In another embodiment of the present invention, the traffic and billing control terms are defined for administration in part at the individual viewer's television, and in part, at the EPG distribution head-end (a "Distributed Traffic and Billing Control System," also referred to as a "Distributed Embodiment").
15   Typically, a Distributed Traffic and Billing Control System would have a back-link from the viewer's television to the head-end. The back-link could be direct, via a network back-link such as through the Internet, a communication requiring manual intervention, or some other method to communicate certain
20   information collected about the advertisement terms for a particular advertisement to the EPG distribution head-end.

Because of the nature of some of the above-identified terms, in some embodiments of the present invention, billing for presentation of any particular advertisement can be variable
25   according to the viewer-by-viewer display results.

1.)   Type of Advertisement

The type of advertisement considers, among other things, what is being advertised.   That is, is a product being
30   advertised, or is a future television program being advertised, etc.   The type of advertisement also considers the format of the particular advertisement.   A particular EPG system can display advertisements in a number of ways, in different area of the EPG display, and at different locations within the EPG operation.
35   For instance, an EPG, such as Gemstar's Guide 98, provide an EPG

Grid Guide display that presents the Grid Guide for program selection in one fixed portion of the display monitor's screen.

5   The example EPG displays the real-time video of the current television program in a PIP (Picture-in-Picture) Window (also referred to as a PIG (Picture-in-Guide) Window). See for example, Figure 1 on page 3 of Appendix A attached hereto. In other fixed display window locations, the EPG displays what are referred to

10   as panel ads. Within the television program listing of the Grid Guide, the EPG can display what are referred to as channel ads. For examples of each of the above-described screen elements, see Figure 1 on page 3 of Appendix A attached hereto.

The present invention provides the EPG administrator to

15   charge a different amount for different types of the advertisements. For instance, the present invention provides the EPG administrator with the option of charging more money for a particular time slot for a Panel Ad than for a Channel Ad.

The present invention further provides for traffic control

20   for the presentation of each type of advertisement. For instance, the present invention provides the EPG administrator to choose to restrict the number of product advertisements that are displayed at any one time on the viewer's EPG display. Furthermore, the present invention provides the EPG administrator

25   with the option of choosing to restrict the number of channel ads that are displayed at any one time on the viewer's EPG display.

3.)   Placement/Location on the Display Device

The present invention provides the EPG administrator with

30   the option of charging different amounts for advertisements depending upon the placement and location of the advertisement in the EPG display. For instance, the EPG administrator can charge more money for a particular time slot for the Panel Ad that is located as seen in Figure 1 on page 3 of Appendix A

35   directly below the PIP Window (Panel Ad # 1) than for the Panel

~~Ad located at the bottom left corner of the screen (Panel Ad #2).~~

There are multiple types of Channel Ads, some of which do

5   not occupy a fixed position. For the Channel Ads that do occupy a fixed position, the present invention provides the option of charging, e.g., more money for a Channel Ad that is displayed toward the top of the Grid Guide program listing than for one that is displayed at the bottom of the listing.

10   There are different variable location Channel Ad types. There is a "Relative" Channel Ad that appears in a position relative to the top of the Grid. Relative Channel Ads are spaced every n channel slots. Relative Channel Ads appear and disappear as the viewer moves through the pages of the Grid Guide. A

15   location for the first ad is selected on the first page of the Grid Guide; subsequent copies of the ad follow every n channel slots in the Grid Guide.

Another type of variable location ad type is the "Parent" Channel Ad. Parent Channel Ads are linked to a specific channel

20   listing located directly above the ad in the Grid Guide.

One embodiment of different type of advertisements in an EPG is described in the Advertising Specifications attached hereto as Appendix B and which is incorporated in full here by reference as if fully stated here.

25   Another type of EPG initiated advertisement is displayed when the viewer is watching television in full screen mode. One way that the EPG presents advertisements during full screen television mode is that it displays the advertisement in the PIP Window of the television as the real-time video programming of

30   the currently tuned program continues to be displayed on the main portion of the television display monitor.

Another way that the EPG presents advertisements during full screen television mode is in the form of an overlay. The overlay advertisement can be opaque or can appear as a translucent

35   "watermark." The overlay advertisement can be static or dynamic.

As an example, consider the viewer that is watching the Super
Bowl. When the team most favored in the viewer's geographic area
5   makes a touchdown, a figure such as the Energizer Bunny moves
from one side of the screen to the other at the bottom of the
screen.

The present invention allows the EPG Administrator to charge
distinct amounts depending upon the placement and location for
10   each of the different ad placement types.

3.) Proportional "Size" of the Advertisement

The present invention allows the EPG administrator to charge
an amount dependent upon   the proportional size of the
15   advertisement to be displayed as compared to the entire display
area available on the viewer's display device. The size of the
advertisement can be defined by the number of "pixels" required
to display the advertisement. In one embodiment of the present
invention, different advertisement types are of fixed size. In
20   such an embodiment, the proportional size billing factor is not
typically used. However, in other embodiments, advertisement
types can differ in size. For instance, consider Panel Ad #1 in
Figure 1 on page 3 of Appendix A. Panel Ad #1 could be shared
by two or more advertisers. The present invention provides the
25   EPG administrator to bill according to the relative size of each
ad displayed within the Panel Ad # 1 Window.

4.) Time Duration for Each Display of a Particular
Advertisement

30   In one embodiment of the present invention, each advertiser
pays a pre-determined amount of money for the opportunity to
display a particular advertisement during a pre-defined time
slot.   One embodiment of time slots and time avails are
described in Appendix A hereto which has previously been
35   incorporated by reference in this application.

The advertisement is predefined for display as a particular ad type for display in a particular location on the EPG display
5   screen. With the present invention, during the above-mentioned pre-defined time slot, more than one advertisement can be rotated for display for a pre-determined amount of time.

In one embodiment of the present invention, the advertiser is billed for a time duration for the display of the
10   advertisement calculated based on the pre-defined time slot and the pre-defined rotation schedule during that time slot. In such an embodiment, the billing does not reflect whether a viewer actually views the advertisement. One embodiment of rotation of advertisements is described in Advertising Specifications
15   attached hereto as Appendix B and which has previously been incorporated in full in this application by reference.

In another embodiment of the present invention, the billing for a particular advertisement depends upon the actual duration of time for which the advertisement is displayed to, and viewed
20   by, the television viewer. Typically, such an embodiment would require a back-link from the individual viewer's television to the EPG distribution head-end.

5.) Expansion Specifications

25   Advertisements can be expanded to provide the viewer with additional information about the advertised product or program. The viewer uses the EPG to request the additional information. For instance, the viewer can select an information icon on the advertisement display using the viewer's remote control device.
30   The additional information can be displayed on some portion of the display screen such as, for example, in the information box (see Figure 1 on page 3 of Appendix A). More than one level of additional information can be available for display by the EPG. Alternatively, the additional information can include   The
35   present invention allows the EPG administrator to charge the

advertiser for the additional information that must be stored to accompany the advertisement. In a Distributed embodiment of the invention, the EPG administrator can also charge the advertiser for actual viewer accesses to the additional information.

6.) <u>Access Relationship Advertising Target Specifications</u>

The present invention provides the EPG administrator with the capability to narrowly target particular advertisements based on a viewer's actions with the EPG. That is, the present invention provides the EPG administrator with the capability to specify that a particular advertisement be displayed on a viewer's television screen under certain conditions, those conditions being determined by the viewer's operation of, and access to, the EPG.

For instance, if the viewer highlights a particular program listing, the EPG administrator can instruct the EPG to display a particular advertisement. In another instance, the EPG administrator can instruct the EPG to display a particular advertisement depending upon what screen or mode of the EPG that the viewer activates. For example, if the viewer accesses the movie theme screen of the EPG, the EPG administrator can instruct the EPG to display a particular advertisement. As another example, the EPG administrator can instruct the EPG to display a particular advertisement as the first Panel Ad #1 every time that the viewer first turns on the television according to a particular schedule (a day, a week, etc.). The types of access relationships that can be communicated to the EPG as a condition for display of an advertisement are described in co-pending U.S. Application No. 09/120,488, which is incorporated in full by reference here as if fully stated here.

Access relationship targeting can be accomplished in both Head-End and Distribution Embodiments. For instance, the EPG administrator can instruct the EPG to display a particular

advertisement depending on data coded in the information packets sent to the viewer's television. The EPG system at the viewer's television decodes the instructions and displays the advertisement when the specified conditions are met.

Billing for access relationship targeting in a Head-End Embodiment would provide the advertiser with the opportunity to have its advertisement displayed according to the described criteria but would not be dependent upon the number of times that the advertisement was actually displayed. On the other hand, billing for access relationship targeting in a Distributed Embodiment would provide the EPG administrator the opportunity to charge the advertiser for each display of the advertisement-- the information concerning the number of displays would be collected through a back-link.

7.) <u>Display Relationship to Viewer Profile Information and Characteristics</u>

The present invention provides the EPG administrator with the capability to narrowly target particular advertisements based on a viewer's historical television viewing and video recording viewing patterns and/or characteristics that can be determined by collection of historical viewer information. The types of viewer profile characteristics and relationships that can be communicated to the EPG as a condition for display of an advertisement are described in co-pending U.S. Application No. 09/120,488, which is incorporated in full by reference here as if fully stated here.

The present invention provides the EPG administrator with the capability to specify that a particular advertisement be displayed on a viewer's television screen under certain conditions, those conditions being determined by the viewer's historical viewing patterns and other viewer profile characteristics. For instance, if the viewer typically watches

sports programs, the EPG administrator can instruct the EPG to display a particular advertisement related to sports. As another example, if the viewer typically watches the programs related to animals, the EPG administrator can instruct the EPG to display a particular advertisement concerning dog food.

The EPG administrator would publish the conditional criteria for this type of advertising to the advertisers. The advertisers would define for the EPG administrator the conditions for which a particular advertisement should be displayed.

Viewer profile targeting can be accomplished in both Head-End and Distribution Embodiments. For instance, the EPG administrator can instruct the EPG to display a particular advertisement depending on data coded in the information packets sent to the viewer's television. In a Head-End embodiment, the EPG system local to the viewer's television would collect the viewer profile and characteristic data and store the information in the memory of the local system. In a Head-End Embodiment, the local EPG system at the viewer's television decodes the instructions and displays the advertisement when the specified conditions are met.

Billing for viewer profile targeting in a Head-End Embodiment would provide the advertiser with the opportunity to have its advertisement displayed according to the described criteria but would not be dependent upon the number of times that the advertisement was actually displayed. On the other hand, billing for viewer profile targeting in a Distributed Embodiment would provide the EPG administrator the capability to charge the advertiser for each display of the advertisement--the information concerning the number of displays would be collected through a back-link.

8.) Scheduling Specifications

The present invention provides the EPG administrator with the capability to schedule a particular advertisements for display on a particular date, or day of the week for a particular time frame. The present invention also provides the capability to schedule a particular advertisement for display during a particular time slot. The EPG administrator can further schedule a particular set of advertisements for a rotation of advertisements during a particular time slot. The rotation and scheduling of advertisements is discussed in both Appendix A and Appendix B to this application, both of which have been previously incorporated by reference in full in this application.

The present invention further provides the EPG administrator with the capability to bill according to the particular date, day of the week, time slot, and rotation schedule defined for a particular advertisement.

9.) Ad Creative Elements

Some Ad Creatives will be comprised of text and static graphical objects for display with a pre-determined color palette. The present invention provides the EPG administrator to bill according to, among other things, the number of colors defined in a supporting color palette, the amount of storage required to store the text and graphical objects of an Ad Creative. Other Ad Creatives may include additional and/or alternative advertising elements, including but not limited to: dynamic graphical objects, sound, video, and other types of advertising elements.

The present invention allows the EPG administrator to bill according to the storage requirements of the advertising elements. The present invention further allows the EPG administrator to define the magnitude of the visual impact of a particular advertisement, and to bill accordingly.

Consider, for instance, a static, text and graphic object Channel Ad for a particular horse racing event. For comparison to the static channel ad, visualize a channel ad that displays a panoramic video of horses racing from the left side of the channel ad to right side of the channel ad. The present invention provides the EPG administrator with the capability to set a higher billing amount for the higher visual impact of the panoramic video Channel Ad than for the static Channel Ad. Graphic and text dynamics are described in the Advertising Specifications attached hereto as Appendix B and which has been previously incorporated in full in this application by reference.

Ad Creatives will be accessible to the host EPG display system by, among other ways: 1.) through direct access by the host EPG display system at the viewer's television to one or more libraries of advertisements residing on a network system, such as the Internet; 2.) by transmitting advertisements to be displayed by the host EPG display system to one or more libraries at a central location at the head end of a television EPG distribution system for subsequent distribution of such advertisements to each television EPG, though, e.g., the Vertical Blanking Interval (the "VBI") and by the host EPG display system at the viewer's television storing the advertisements received from the VBI in a database of advertisements; 3.) through direct access by the head end of a television EPG distribution system to one or more libraries of advertisements residing on a network system, such as the Internet for selection by the head end of appropriate advertisements for subsequent distribution of such advertisements to each television EPG, though, e.g., the Vertical Blanking Interval (the "VBI") and by the host EPG display system at the viewer's television storing the advertisements received from the VBI in a database of advertisements. .

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10.) Ad Interactivity

Advertisements displayed in the EPG can provide interactivity with the Television and the video recorder. For instance, "Tune-in" Ads allow the viewer to tune directly to a show in progress from a highlighted ad block if the ad block has program information associated with it. Typically, the viewer selects the program for tuning by using the viewer's remote

10   control device. For instance, the viewer can press the remote ~~control enter button while a Tune-in Ad Block is highlighted~~.

"Direct-record" Ads allow the viewer to record a show in progress or schedule a program for recording at a later time. A program can be designated for recording from a highlighted

15   Direct-record Ad block if the ad block has program information associated with it. Typically, the viewer uses the viewer's remote control device to instruct the EPG to schedule a program for recording. In one embodiment, the viewer highlights the Direct-record ad block and "presses" the right action button on

20   the Grid Guide.

"Watch" Ads with associated program information allow a viewer to place a future-scheduled program on the viewer's Watch list.

The present invention provides the EPG Administrator with

25   the capability to charge different amounts for the different types of interactivity available for each advertisement. Appendix B hereto, which has previously been incorporated in full into this application, contains a description of some of the different types of ad interactivity.

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